X is a hydrophobic aliphatic hydrocarbon chain containing from about 4 to about 30 carbon atoms and having one or more nonconjugated cis double bonds in the middle portion of the chain;

Y is selected from the group consisting of amide and ester radicals; and

Z is selected from the group consisting of hydrogen, lower alkyl, hydroxy substituted lower alkyl, aryl, hydroxy substituted aryl, heterocyclic and hydroxy substituted heterocyclic radicals;

wherein if X contains from 18 to 21 carbon atoms, Z cannot be hydrogen if Y is an amide radical.

8. (amended) The method of claim 1 wherein Z includes an [alky] alkyl group alpha to the amido nitrogen.

10. (amended) A method of modifying the rate of anandamide inactivation in an individual or animal comprising administering to the individual or animal a therapeutically effective amount of an inhibitor that targets an individual's or animal's anandamide transporter, said transporter being a protein exhibiting a temperature-dependent, saturable, high affinity and Na^+ -independent mechanism,

wherein the inhibitor excludes a compound represented by the following structural formula:

X - Y - Z

and physiologically acceptable salts thereof, wherein:

X is a hydrophobic aliphatic hydrocarbon chain containing from 18 to 21 carbon atoms and having one or more nonconjugated cis double bonds in the middle portion of the chain;

Y is an amide radical; and

Z is hydrogen.

12. (amended) A [compound] pharmacological formulation comprising a compound represented by the following structural formula:

X - Y - Z